

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Morrow Lake Sediment Release - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #1
Initial - PRP Oversight
Morrow Lake Sediment Release
C5SC
Comstock, MI
Latitude: 42.2825160 Longitude: -85.4920006

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From: Jeff Kimble, OSC
Date: 11/4/2020
Reporting Period: 10/05/2020 - 11/04/2020

1. Introduction

1.1 Background

Site Number:	C5SC	Contract Number:
D.O. Number:		Action Memo Date:
Response Authority:	CERCLA	Response Type: PRP Oversight
Response Lead:	PRP	Incident Category: Removal Assessment
NPL Status:	Non NPL	Operable Unit:
Mobilization Date:	10/5/2020	Start Date: 10/5/2020
Demob Date:		Completion Date:
CERCLIS ID:		RCRIS ID:
ERNS No.:		State Notification: EGLE
FPN#:		Reimbursable Account #:

1.1.1 Incident Category

PRP Oversight

1.1.2 Site Description

The Morrow Lake Dam is located in Comstock, Michigan. The hydroelectric dam holds back waters of the Kalamazoo River in a 1000 acre Morrow Lake impoundment. A drawdown of Morrow Lake to perform emergency repairs on the tainter gates of the dam resulted in the discharge of lake bottom sediments to an approximate 12 mile stretch of the Kalamazoo River downstream of the dam. Morrow Lake sediments are known to contain polychlorinated biphenyls (PCB) contamination.

1.1.2.1 Location

The Morrow Lake Dam is located at 6900 East Michigan Avenue, Comstock, Kalamazoo County, Michigan at approximately River Mile 76.5 on the Kalamazoo River. The dam is owned by Eagle Creek Renewable Energy, LLC (ECRE) and operated by STS Hydropower, LLC (STS).

1.1.2.2 Description of Threat

In November 2019, the Morrow Lake Dam spillway gates required immediate emergency repairs and a partial lake drawdown to relieve gate pressure and eliminate the risk of uncontrolled flooding. During inspection of the gates, they were found to be in need of replacement instead of repairs, with the time needed for full replacement expected to continue until December 2020. Following the drawdown, the Michigan Department of Environment, Great Lakes and Energy (EGLE) received reports of increased turbidity and fine sediment deposits downstream of the dam. EGLE issued Notices of Violation (NOVs) on July 8, 2020 and September 16, 2020, requiring STS to develop a plan to assess the volume, location, depth and composition of sediments downstream that were mobilized by the drawdown and to sample these sediments for PCBs and hydrocarbons, as historic sampling results have documented the presence of PCB contamination in Morrow Lake sediments. EGLE requested EPA assistance on September 24, 2020. All documentation can be found in the 'Documents' section of the website.

The sediment release has increased turbidity levels in the Kalamazoo River at least 30 river miles downstream, which has been documented by EGLE with direct read instrumentation. The Kalamazoo River downstream Morrow Lake is currently part of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site, where ongoing remedial activities have been underway to clean up PCB contamination. Potentially Responsible Parties (PRPs) conducting cleanup work have expressed concerns to US EPA and EGLE on the impact of the sediment release to ongoing cleanup efforts. The increased turbidity has impacted water quality and is suspected to have impacted fish and other wildlife downstream.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

A preliminary assessment by EPA, EGLE, DNR and a START personnel was conducted on October 5-6, 2020. Dozens of mobilized sediment deposits were documented over 10 river miles downstream of Morrow Lake Dam. Sediment deposit thickness was documented using poling methods, with suspected mobilized sediment depths found up to 10 feet thick. In addition, upstream reconnaissance was conducted on Morrow Lake to document existing sediment control measures installed by STS to minimize sediment mobilization.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Additional sediment containment controls were installed upstream of the dam in Morrow Lake in active erosional areas to prevent further mobilization of lake sediments. Workplans for an initial phase of downstream bathymetric surveys and mobilized sediment sampling have been prepared and submitted. US EPA is coordinating with ECRE, STS, AECOM, EGLE and DNR to review and conduct oversight on these assessment activities.

2.1.2 Response Actions to Date

In addition to sediment containment controls already in place, a contractor to STS (SWAT) installed approximately 5000 linear feet of sediment curtain in active erosional areas upstream of the dam within Morrow Lake identified during field reconnaissance (see photo). In addition, coir logs were installed in other areas susceptible to erosion during high water events upstream of the dam in Morrow Lake (see photo). Sediment control measures were also maintained and reinforced immediately downstream of the dam along mobilized sediment deposits susceptible to further mobilization downriver.

A contractor to STS (AECOM) prepared a bathymetric survey workplan and a field sampling work plan for both Morrow Lake (upstream) and Kalamazoo River (downstream) sediments to characterize the extent of mobilized sediment and determine if contaminants have mobilized downstream of the Morrow Lake Dam.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The Morrow Lake Dam is owned by Eagle Creek Renewable Energy, LLC (ECRE) and operated by STS Hydropower, LLC (STS).

2.1.4 Progress Metrics

None to date

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

2.2 Planning Section

2.2.1 Anticipated Activities

As dredging and construction activities continue to replace the tainter gates and return the hydroelectric dam to normal operations, monitoring and maintenance of the erosion controls upstream and downstream of the dam will continue. The bathymetric survey and mobilized sediment sampling work plans will be implemented with oversight by US EPA and START in coordination with EGLE.

2.2.1.1 Planned Response Activities

Additional phases of bathymetric surveying and the sediment sampling will be developed and implemented once results of the initial phase are reviewed.

2.2.1.2 Next Steps

US EPA / START will collect split sediment samples from those collected by contractors to STS. US EPA and EGLE will review all data from the initial phase of sampling when received. PCBs are a known contaminant in Morrow Lake sediments. US EPA and EGLE will review the data to see if the mobilized sediments evaluated in the initial phase of sampling pose any risk to downstream receptors. Data and information collected from the initial phase of surveying and sampling will be utilized to develop subsequent sampling and characterization efforts.

2.2.2 Issues

River levels downstream of the dam will be impacted by water level changes over the next several weeks as the tainter gates are replaced. Construction is anticipated to be completed by the end of 2020.

2.3 Logistics Section

STS and their contractors (AECOM and SWAT Environmental of Michigan) are conducting all field logistics at this time.

2.4 Finance Section

2.4.1 Narrative

START contractor TetraTech, Inc. and Mannik Smith Group area assisting US EPA in conducting oversight of field assessment activities.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	\$25,000.00	\$10,000.00	\$15,000.00	60.00%

Intramural Costs					
USEPA - Direct	\$10,000.00	\$2,000.00	\$8,000.00	80.00%	
Total Site Costs	\$35,000.00	\$12,000.00	\$23,000.00	65.71%	

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

STS and their field contractors, AECOM and SWAT Environmental of Michigan have on site safety officers serving in this role when field activities are underway by their respective field crews.

2.5.2 Liaison Officer

OSCs Kimble and Ruesch are currently serving this role.

2.5.3 Information Officer

OSCs Kimble and Ruesch and CIC Diane Russel are serving this role.

3. Participating Entities

3.1 Unified Command

NA

3.2 Cooperating Agencies

Michigan Department of Environment, Great Lakes and Energy (EGLE)

Michigan Department of Natural Resources (DNR)

4. Personnel On Site

The following personnel related to the field assessment activities have been periodically on site during the reporting period:

AECOM	4
DNR	2
EGLE	2
START	1
STS	2
SWAT	6
US EPA	2

Total 19

5. Definition of Terms

CIC	Community Involvement Coordinator
EGLE	Michigan Department of Environment, Great Lakes and Energy
ECRE	Eagle Creek Renewable Energy, LLC
MDNR	Michigan Department of Natural Resources
OSC	On Scene Coordinator
PCB	Poly-chlorinated Biphenyls
PolRep	Pollution Report
RM	River Mile
START	Superfund Technical Assessment & Response Team (US EPA contractor)
STS	STS Hydropower, LLC
US EPA	United States Environmental Protection Agency

6. Additional sources of information

6.1 Internet location of additional information/report

<https://response.epa.gov/morrowlake>

6.2 Reporting Schedule

The next PolRep will be issued once the preliminary phase of bathymetric surveying and sediment sampling is completed and data is available.

7. Situational Reference Materials

Michigan DNR: https://www.michigan.gov/dnr/0,4570,7-350-79137_79770_79781-511949--,00.html

Michigan EGLE: https://www.michigan.gov/egle/0,9429,7-135-3313_56784-270377--,00.html





